

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF TEXAS  
DALLAS DIVISION**

NABORS DRILLING TECHNOLOGIES  
USA, INC.

Plaintiff,

vs.

HELMERICH & PAYNE INT’L DRILLING  
CO.; HELMERICH & PAYNE  
TECHNOLOGIES, LLC; AND MOTIVE  
DRILLING TECHNOLOGIES, INC.

Defendants.

Civil Action No. 3:20-cv-03126

**PLAINTIFF NABORS DRILLING TECHNOLOGIES USA, INC.’S  
REPLY CLAIM CONSTRUCTION BRIEF**

Pursuant to the Northern District of Texas’s Patent L.R. 4-5(c) and the Court’s Second Amended Patent Scheduling Order (ECF No. 73), Plaintiff Nabors Drilling Technologies USA, Inc. (“Nabors”) respectfully submits this Reply Brief to Defendants’ Responsive Claim Construction Brief (ECF No. 92) and supporting Nabors’ Opening Claim Construction Brief (ECF No. ) and relating to Nabors’ Asserted Patents.

Date: September 2, 2021

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**CERTIFICATE OF SERVICE**

I hereby certify that on the 2nd day of September, 2021, a true and correct copy of the foregoing document was served on all counsel of record via the Court's CM/ECF system in accordance with the Federal Rules of Civil Procedure.

/s/ John Wesley Raley

**John Wesley Raley**

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16	Benson Pub No. US 2013/0161096
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## I. ARGUMENT

### A. Disputed Terms for the ‘593 Patent

#### 1. “receiving a well prog” (Claim 19 of Nabors’ U.S. Patent No. 7,860,593)

H&P’s proposed construction is inconsistent with the position it took in its IPR Petition:

H&P’s Proposed IPR Construction (July 22, 2021)	H&P’s Proposed Dist. Court Construction (May 13, 2021)
<p>“a POSITA would understand that the term <u>well prog</u>, in view of the specification, would include a ‘<u>document containing information for planning and chronicling the steps of drilling a well.</u>’ A POSITA would further understand that the information included in the well prog <i>may relate to</i> planning, drilling and completing the well.”</p> <p><i>See</i> ECF No. 88-4, H&amp;P’s IPR Petition at 30 of 85 (emphasis added)</p>	<p>“receiving a document in a non-computer readable format that contains specifications, goals, and plans for drilling and completing a well.”</p> <p><i>See</i> ECF No. 78, Joint Claim Construction and Prehearing Statement, at p. 13 of 33.</p>

H&P’s proposed construction of Claim 19 of Nabors’ ‘593 patent before this court lacks credibility since it conflicts with the position H&P took before the PTAB. Both tribunals apply the *Phillips* standard in construing patent claims.<sup>1</sup> H&P is asserting a broad construction of Nabors’ patent in the IPR in an effort to force patent claims to be covered by prior art, but advocates a much narrower construction before this Court in an effort to avoid infringement. For example, before this Court H&P asserts that the “well prog” must contain “specifications, goals, and plans for drilling and completing a well,” even though H&P told the IPR Panel that the “well prog may relate to” planning, drilling and completing a well. Further, while H&P in this Court disputes that the “well prog” contains “information,” it took exactly the opposite position before the IPR Panel.

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<sup>1</sup> PTO changed the claim construction standard used in IPR proceedings. *See* 37 C.F.R. § 42.100(b); *Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51,340, 51,340 (Oct. 11, 2018). The new standard applies only to petitions filed on or after November 13, 2018.

Nabors' proposed construction and H&P's IPR construction are aligned in that that the "well prog" contains or includes "information" for drilling a well. *See* ECF No. 88-4, H&P's IPR Petition at p. 30 of 85.

Additionally, H&P's proposed construction attempts to limit this element of Claim 19 to a step of receiving a printed paper document in a non-computer readable format document. The '593 Patent in no way limits the "receiving a well prog" to such circumstances. Indeed, the preferred embodiment (FIGs. 3-5 of the '593 Patent) illustrates examples of "prog data entry methods" for "receiving a well prog" into the computer system as follows:

The exemplary well prog drilling facilitation process 300 begins at 302. An exemplary project execution prog is entered into a computer system 102, at 310, through interface engine 104. **Interface engine 104 may include equipment and systems that support a variety of prog data entry methods.** Entering the project execution prog may be accomplished by a selected manner or combination of manners, which include

- [1] **copying** a text data file into the computer system, at 3102,
- [2] **scanning** a document into the computer system and conducting a character recognition process on the document at 3104,
- [3] **responding to an interview** that asks pertinent questions about the full range of potential operations the prog may cover (initiated by the facilitation module) at 3106, or
- [4] incorporating the prog or elements of the prog into the computer system 102 by **any other method of transferring text from a hard copy document into a machine readable format** at 3108.

ECF No. 88-1 (Exhibit 1), '593 Patent at (6:55-7:2)(emphasis added). H&P's construction would limit Claim 19 to the manner described only in option [4] as limited to "transferring text from a hard copy document [non-computer readable format] into a machine readable format." The embodiments of options [1] to [3] do not require that the "well prog" exist in a printed paper document in a non-computer readable format. Specifically, the "copying" step (3102) clearly

describes what is being copied - “a text data file.” The “scanning” step (3104) does not limit the “document” to a printed paper document, but includes electronic documents. The specification describes “scanning the converted well prog to identify action items” after the well prog has been converted into a computer readable format. ECF No. 88-1 (Exhibit 1), ‘593 Patent at (2:37-40; 5:16-24; 7:20-25; 7:34-38). The “responding to an interview” step (3106) is a data entry facilitation process that is not limited to a “document” in a “non-computer readable format.” The written description states that “receiving a well prog” may be done in multiple ways including “data transfer” and “raw data entry.” ECF No. 88-1 (Exhibit 1), ‘593 Patent at (4:43-48).

## **B. H&P’s Asserted Indefinite Subject Matter Terms of Degree**

### **1 “comparable operating parameter” Claim 13 of Nabors’ ‘171 Patent**

#### **a. “comparable operating parameter” is not a term of degree.**

A term of degree is one that “necessarily calls for a comparison against some baseline.” *Liberty Ammunition, Inc. v. United States*, 835 F.3d 1388, 1395 (Fed. Cir. 2016)(emphasis added). The claim phrase “comparable operating parameters” does not require comparison to a baseline. “Comparable” means “capable of being compared.”<sup>2</sup> “Capable” means “having the power and ability.”<sup>3</sup> “Operating parameters” either have the power and ability to be compared or they don’t. This phrase covers a binary “yes or no” question. There are no varying degrees relating to what satisfies this claim element (*e.g.*, operating parameters that are “partially comparable” or “mostly comparable”).

H&P incorrectly argues the phrase “comparable operating parameters” requires a determination of whether the operating parameters are “similar.”<sup>4</sup> There is nothing in the language

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<sup>2</sup> Exhibit 14, <https://www.dictionary.com/browse/comparable>.

<sup>3</sup> Exhibit 14, <https://www.dictionary.com/browse/capable>.

<sup>4</sup> ECF No. 92, H&P’s Responsive Claim Construction Brief, at pp. 10-11.

of the claim that discusses the operating parameters as needing to be similar to something else to be “comparable.”<sup>5</sup> There is nothing in the entire patent that discusses the operating parameters as needing to be similar to something else to be “comparable.”<sup>6</sup> Rather than requiring the parameters to be similar, the patent identifies the operating parameters by type - demonstrating a plain intent for a determination of whether the parameters are comparable based on the type of parameter that is used (*i.e.*, a binary decision of: “yes - this type of parameter is comparable,” or “no - this type of parameter is not comparable.”).<sup>7</sup> Since there is no requirement for a comparison to a baseline in order to determine whether the operating parameters are “comparable,” this phrase is not a term of degree.

**b. Even if the phrase is a term of degree, it is a definite one.**

Terms of degree are only indefinite if they are used without any supporting context. “Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014). One way for patents to provide sufficient context for terms of degree is to give examples of what qualifies. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1260 (Fed. Cir. 2014)(“For other terms like, for example, terms of degree, specific and unequivocal examples may be sufficient to provide a skilled artisan with clear notice of what is claimed.”); *See also Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1334–35 (Fed.Cir.2010) (finding the phrase “not interfering substantially” to be definite where intrinsic evidence provided multiple examples that would allow a skilled artisan to determine

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<sup>5</sup> ECF No. 88-5, ‘171 Patent (Ex. 5) at (22:62-23:9).

<sup>6</sup> ECF No. 88-5, ‘171 Patent (Ex. 5) at *passim*.

<sup>7</sup> ECF No. 88-5, ‘171 Patent (Ex 5) at (Figure 3; 2:63-3:3; 5:47-64; 23:16-18, 23:24-26).

whether a particular chemical bond linkage group would “interfer[e] substantially” with hybridization).

These cases apply squarely here. The ‘172 Patent has two dependent claims defining specific examples of what are “comparable operating parameters:” Claim 16 (which gives the example of the “comparable operating parameters” being “toolface set point values or range”), and Claim 19 (which gives the example of the “comparable operating parameters” being “torque, speed, or orientation of a quill or toolface”).<sup>8</sup> The specification provides **nine** detailed examples of operating parameters that are comparable by using the word “compare” when describing the analysis of the parameters.<sup>9</sup> This means that there are at least **eleven** places in the specification, where “specific and unequivocal examples” are provided, giving more than enough context regarding the meaning of this term to make it definite under *DDR Holdings*. 773 F.3d at 1260.

H&P’s expert during this claim construction phrase, Mr. Sharma, does not provide credible opinions to support a finding of indefiniteness. Mr. Sharma concedes “comparable” means “capable of or suitable for comparison.”<sup>10</sup> This confirms this phrase embodies a binary “yes or no” analysis of whether an operating parameter is “capable of” or “suitable for” for conducting a comparison.

Mr. Sharma concedes that Claims 13 and 16 define “various operating parameters and types of operating parameters,” but asserts in the next paragraph that the ‘172 Patent “does not teach *what* operating parameters are ‘comparable’ to each other ...”<sup>11</sup> Mr. Sharma’s inconsistency on this point shows even he cannot escape the fact that the ‘172 Patent defines “comparable

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<sup>8</sup> ECF No. 88-5, ‘171 Patent (Ex. 5) at (23:16-18 and 23:24-26).

<sup>9</sup> ECF No. 88, Nabors’ Opening Claim Construction Brief contains a chart of these nine comparisons on pages 12-13; *See also* ECF No. 88-5, ‘171 Patent (Ex. 5) at (9:45-12:7).

<sup>10</sup> ECF No. 93 at App. 0034, H&P’s Sharma Dec. at ¶ 25.

<sup>11</sup> ECF No. 93 at App. 0034, H&P’s Sharma Dec. at ¶¶ 27 - 28 (emphasis in original).

operating parameter” with great detail. Mr. Sharma also argues there is no support for “comparable operating parameter,” because this exact phrase is not used in the specification.<sup>12</sup> Mr. Sharma neglects to recognize the ‘172 Patent uses the word “compare” over 17 times, at least 9 of those times when describing specific parameters that are capable of being compared (*i.e.*, parameters that are “comparable”).<sup>13</sup> By giving numerous examples of operating parameters being compared to each other, the patent provides absolute certainty to the meaning of “comparable operating parameters,” making this phrase definite.

**c. H&P’s IPR petition and litigation positions confirms this claim phrase is definite.**

H&P admitted in its IPR petitions that it easily understood the meaning of this claim phrase when it asserted prior art references disclosed “comparable operating parameters.”<sup>14</sup> Notably, H&P identified what it thought to be “comparable operating parameters” by identifying the type of parameter, such as defining “comparable operating parameters” as being “toolface setpoint values or ranges” or “torque measurements.”<sup>15</sup> This is an admission by H&P that this term is directed to the type of parameter, not any sort of analysis of whether a parameter is similar. H&P’s response argues its own IPR admissions do “not save that term from indefiniteness.”<sup>16</sup> The Federal Circuit has held the opposite. In *Sonix Tech. Co., Ltd. V. Publications Int’l, Ltd.*, the Court reversed a district court’s finding of indefiniteness based in part on the fact that the defendants easily understood the meaning of the claim term when filing re-examinations at the PTO: “No one

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<sup>12</sup> ECF No. 93 at App. 0035, H&P’s Sharma Dec. at ¶ 28.

<sup>13</sup> ECF No. 88-5, ‘171 Patent (Ex. 5) at (9:45-12:7).

<sup>14</sup> See Nabors’ Opening Claim Construction Brief (ECF No. 88) at pages 15-16.

<sup>15</sup> ECF No. 88-6, H&P’s IPR Petition (IPR2021-00897)(5-07-2021) at p. 62 (emphasis added)

<sup>16</sup> ECF No. 92, H&P’s Responsive Claim Construction Brief, at p. 15.

involved in either the first or the second reexamination had any apparent difficulty in determining the scope of ‘visually negligible.’” 844 F.3d 1370, 1379 – 80 (Fed. Cir. 2017).

In an attempt to explain its IPR admissions, H&P’s response brief concedes it believes operating parameters will be comparable at least when they are the same: “[T]wo of the same parameters that share the exact same value (as in the IPR prior art) would be ‘comparable’ under any definition ...”<sup>17</sup> Since H&P admittedly understands the meaning of this term, it cannot credibly argue the term is indefinite. *See, e.g., Sonix*, 844 F.3d at 1380 (reversing finding of indefiniteness in part because “[a]ppellees apparently understood the meaning of ‘visually negligible’ from the beginning of the litigation.”).

H&P asserts that this claim element is disclosed in six separate prior art references. This further demonstrates H&P has no problem figuring out what this term means when doing so suits H&P’s purposes.<sup>18</sup> H&P’s newly discovered ignorance about this term for the purposes of claim construction is not credible. *See, e.g., 3G Licensing, S.A. v. Blackberry Ltd.*, CV 17-82-LPS-CJB, 2018 WL 4375091, at \*8 (D. Del. Sept. 13, 2018)(finding claim term definite in part because: “Defendants’ own preliminary invalidity contentions also support this position, as they compared the terms with a prior art reference and did not argue that the terms were indefinite.”).

## **2. “optimized path” Claim 20 of Nabors’ ‘154 Patent**

### **a. “optimized path” is not an invalid term of degree.**

The ‘154 Patent uses “optimal,” when referring to something that is the “most efficient or effective path to the target locations.”<sup>19</sup> This definition of “optimal” applies to Claim 20’s use of the similar word “optimized,” which should also be construed as meaning the “most efficient or

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<sup>17</sup> ECF No. 92, H&P’s Responsive Claim Construction Brief, at p. 15.

<sup>18</sup> Exhibit 15, H&P’s Invalidity Contentions Appendix G, Claim Charts G1-G6.

<sup>19</sup> ECF No. 88-11, ‘154 Patent (Ex. 11) at (3:13-16).

effective” path. This is consistent with Nabors’ proposed construction of “optimal path” meaning the “best” path. When a claim term is required to be the “most” or “best” of something, it is not an invalid term of degree. *See, e.g., Cave Consulting Group, Inc. v. Truven Health Analytics Inc.*, 15-CV-02177-SI, 2017 WL 1487628, at \*7 (N.D. Cal. Apr. 25, 2017)(finding claim phrase “most prevalent medical conditions” was not an indefinite term of degree because it related to the most common medical condition); *Pinpoint Inc. v. Hotwire, Inc.*, 11 C 5597, 2013 WL 1174688, at \*5 (N.D. Ill. Mar. 20, 2013)(finding claim phrase “most closely matches” was not an indefinite term of degree); *OPTIS Wireless Tech. LLC v. ZTE Corp.*, 2:15-CV-300-JRG-RSP, 2016 WL 1599478, at \*12 (E.D. Tex. Apr. 20, 2016)(finding “most, if not all” was not an indefinite term of degree because it meant “most or all” devices).

In *Alberta Tele. v. AT&T*, the District of New Jersey found the term “increases and optimizes demand served” was not indefinite, because the specification “teaches optimization as ‘effective and efficient’” when describing the invention. CIV.A. 09-3883 PGS, 2012 WL 3990540, at \*6 (D.N.J. Sept. 10, 2012)(emphasis added). Here, the ‘153 Patent not only teaches optimization as “efficient or effective,” it defines it as being the “most efficient or effective” path - providing more than reasonable certainty regarding the meaning of this claim term.

**b. “optimized path” should be given its plain and ordinary meaning.**

Claim 29 defines the “optimized path” as “an indicator extending from the calculated position of the drill bit and indicating an optimized path toward the drill plan.”<sup>20</sup> A plain reading of this claim phrase shows the baseline will be the *current* path of the drill bit (that has deviated from the drill plan), while the “optimized path” will be a *better* path to get the drill bit back on track with the drill plan. This is consistent with the plain meaning of “optimized” and Nabors’

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<sup>20</sup> ECF No. 88-11, ‘154 Patent (Ex. 11) at (19:20-30)(emphasis added).

proposed construction of this term meaning the “best path.” When analyzing terms like “optimized,” district courts have adopted constructions like Nabors proposes instead of holding that they are indefinite terms of degree. *In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 1:09-CV-179, 2013 WL 12248192, at \*9 (S.D. Ohio Dec. 31, 2013)(“The Court, therefore, accepts R+L’s definition of ‘optimize’ - ‘making the best or most effective use of.’”)(emphasis added); *Emcore Corp. v. Optium Corp.*, CIV.A. 6-1202, 2008 WL 3271553, at \*7–8 (W.D. Pa. Aug. 5, 2008)(finding “optimum SBS suppression” to mean “the most advantageous level of SBS suppression for the system”)(emphasis added).<sup>21</sup>

**c. The ‘153 Patent and H&P’s expert both give examples of the meaning of this term, proving it is conveyed with reasonable certainty.**

Construing “optimized path” as the “best path” is consistent with the ‘153 Patent’s specification. The ‘153 Patent explains the indicator representing the optimized path is the “advisory toolface direction”: “the advisory toolface direction represents an optimal direction towards the drill plan.”<sup>22</sup> The Patent goes on to explain that this advisory toolface direction may be calculated by taking the average of the other three indicators 316 (inclination of the wellbore), 318 (azimuth of the wellbore), and 320 (hole depth) to determine the best direction path back to the drill plan.<sup>23</sup> This concrete example of how to determine the optimized path - by calculating

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<sup>21</sup> See also *iTimeline, Inc. v. Proclarity Corp.*, C05-1013JLR, 2006 WL 6143242, at \*13 (W.D. Wash. June 29, 2006)(“Therefore, the court construes ‘optimization’ to mean ‘providing performance with respect to a given characteristic (e.g. speed or flexibility of output) that is superior to the performance of some other possible configuration with respect to that characteristic.’”); *InfoGation Corp. v. ZTE Corp.*, 16-CV-01901-H-JLB, 2017 WL 1821402, at \*13 (S.D. Cal. May 5, 2017)(“Accordingly, the Court construes the term ‘optimal routes/optimal route’ as ‘recommended route(s) based on one or more criteria.’”)(emphasis added).

<sup>22</sup> ECF No. 88-11, ‘154 Patent (Ex. 11) at (10:20-50).

<sup>23</sup> ECF No. 88-11, ‘154 Patent (Ex. 11) at (10:20-50).

the direction of the toolface needed to get back to the drill plan - prevents this claim phrase from being indefinite. *DDR Holdings*, 773 F.3d at 1260.

H&P's expert Robert Schaaf confirmed that he easily understood this claim phrase and gave **five** examples of optimized paths, including a path that "prioritize[s] the fastest or cheapest path back to the planned trajectory."<sup>24</sup> This alone proves this claim phrase is definite. *Sonix Tech. Co., Ltd. v. Publications Int'l, Ltd.*, 844 F.3d 1370, 1380 (Fed. Cir. 2017)(holding "fact that the experts applied the term" was "evidence that a skilled artisan did understand the scope of this invention with reasonable certainty.") .

H&P's Mr. Schaaf's understanding of this term is consistent with Nabors' proposed construction of having this term cover the "best" path or the most "efficient, fastest, shortest" path. Mr. Schaaf's understanding of this term is also consistent with the '153 Patent's specification, which explains the entire point of the invention as providing a more "efficient" method for steering a BHA by improving "speed and accuracy."<sup>25</sup>

**d. H&P's *Intellectual Ventures* case does not apply.**

H&P's response asserts that the Federal Circuit's 2018 opinion in *Intellectual Ventures* is controlling, because it affirmed the District of Delaware's finding of "optimize" as indefinite in a case analyzing an unrelated patent.<sup>26</sup> The patent at issue in *Intellectual Ventures* contained no

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<sup>24</sup> ECF No. 93, App. 0011-22, H&P's Schaaf Dec. at ¶ 33.

<sup>25</sup> ECF No. 88-11, '154 Patent (Ex. 11) at (2:1-16 and 3:25-29).

<sup>26</sup> ECF No. 92, H&P Responsive Claim Construction Brief, at p. 20 (citing *Intellectual Ventures I, LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018) *affirming in relevant part Intellectual Ventures I, LLC v. AT&T Mobility, LLC*, 2016 WL 4363485 (D.Del. 2016)).

context for the word “optimize” and instead specifically said its meaning would “vary from user to user based on individual preferences.”<sup>27</sup>

Unlike the patent in *Intellectual Ventures*, the ‘153 Patent defines the “optimized path” as an indicator showing the path toward the drill plan.<sup>28</sup> The ‘153 Patent also provides a detailed example of how this is calculated, including by averaging various rig measurements to determine a path back to the drill plan.<sup>29</sup> *Intellectual Ventures* has no persuasive authority here. Indeed, the Eastern District of Texas was recently confronted with the same argument asserted by H&P (that *Intellectual Ventures* controls construction of “optimized” language), and, as the the Eastern District explained: “[T]he Federal Circuit’s affirmance of the *Intellectual Ventures* decision does not affect the proper outcome here because the word ‘optimize’ is used in a different context and ‘claims of unrelated patents must be construed separately.’” *SEVEN Networks, LLC v. Google LLC*, 2:17-CV-441-JRG, 2018 WL 5263271, at \*14–15 (E.D. Tex. Oct. 23, 2018)(citing *e.Digital Corp. v. Futurewei Techs., Inc.*, 772 F.3d 723, 727 (Fed. Cir. 2014)). *SEVEN Networks* held that the claim phrase “optimize background traffic” was not indefinite, and was meant to adjust background traffic to “conserve resources” (*i.e.*, better than the normal use of resources). *Id.*

**e. H&P’s IPR admissions prove it understands this term with reasonable certainty.**

When filing an IPR Petition seeking to invalidate claim 20 of the ‘154 Patent, H&P had absolutely no problem understanding the meaning of “optimized path,” and alleges that this feature was disclosed in a prior art reference:

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<sup>27</sup> *Intellectual Ventures I LLC v. AT&T Mobility LLC*, CV 13-1668-LPS, 2016 WL 4363485, at \*10 (D. Del. Aug. 12, 2016), *aff’d in part, vacated in part, remanded sub nom. Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372 (Fed. Cir. 2018)

<sup>28</sup> ECF No. 88-11, ‘154 Patent (Ex. 11) at (19:20-30).

<sup>29</sup> ECF No. 88-11, ‘154 Patent (Ex. 11) at (Figures 3-6 and 10:20150).

*Benson II*<sup>30</sup> also discloses the indicator indicating an “optimized path” toward the drill plan. EX1003, ¶301; EX1006, ¶¶[0112]-[0126] (disclosing a convergence path with the objective of “get[ting] the actual drilling path back to the planned path 742 in the most optimal manner”), ¶[0167] (“The convergence plan represents a path from the current drill bit position to an achievable and optimal convergence target point along the planned path.”), Fig. 8A (describing an embodiment of determining the optimal convergence path).

*Benson II* also discloses this limitation under the Patent Owner’s proposed claim construction. EX1003, ¶302; *see supra* Section VII. *Benson II* discloses that the optimized path toward the drill plan may be defined by “a time value.” EX1003, ¶302; EX1006, ¶[0112]. In such a scenario where “time is of primary importance, a time cost may be weighted over financial and reliability costs to ensure a solution vector that is fastest will be selected over other solution vectors.” EX1006, ¶[0124]. *Benson II* therefore discloses that the “optimized path” is the “efficient, fastest, shortest” path. EX1003, ¶302.<sup>31</sup>

\* \* \*

*Benson II* also teaches the first indicator extending from the calculated position of the drill bit and indicating an optimized path toward the drill plan. EX1003, ¶318; *see supra* Limitations 1[h], 20[k]. “[A]s the actual toolface veers off course, the GUI may be repeatedly updated to indicate an offsetting correction that should be made in cases where the GUI is used to notify an individual for manual correction of the toolface.” EX1006, ¶[0251]. The first indicator may also be updated. *Id.* (“In some embodiments, the surface steerable system 201 may correct the heading automatically, while in other embodiments, the target toolface pointer 296 may change to indicate an updated correct heading.”). The first indicator also is updated to indicate the optimized path toward the drill plan as the drill bit changes position. EX1003, ¶318.<sup>32</sup>

As described above, during the co-pending IPR, H&P and its expert understood an “optimized path” to include any of the following: (1) a convergence path with the objective of “get[ting] the actual drilling path back to the planned path 742 in the most optimal manner,” (2) a path from the “current drill bit position to an achievable and optimal convergence target point along the planned path,” (3) a path toward the drill plan based on a “time value,” (4) a path toward

<sup>30</sup> Exhibit 16, US Patent Application Serial No. 2013/0161096 to Benson et. al., entitled “System and Method for Determining Incremental Progression Between Survey Points While Drilling.”

<sup>31</sup> Exhibit 17, H&P’s IPR Petition (IPR2021-01043)(6-11-2021) at pages 78-79.

<sup>32</sup> Exhibit 17, H&P’s IPR Petition (IPR2021-01043)(6-11-2021) at pages 80 – 81.

the drill plan based on the “minimum of costs” as shown in Figure 8A of Benson II,<sup>33</sup> (5) an indicator “extending from the calculated position of the drill bit and indicating an optimized path toward the drill plan,” or (6) an indicator showing “an offsetting correction that should be made in cases where the GUI is used to notify an individual for manual correction of the toolface.”

As the Federal Circuit recognized in *Sonix Tech*, H&P’s unhindered ability to find multiple meanings for this claim phrase in its IPR completely undercuts H&P’s claimed ignorance about the meaning of this term now. 844 F.3d 1370, 1379 (Fed. Cir. 2017).

### C. Disputed Terms of the ‘663 Patent

#### 1. “a method of directing a drilling operation in a wellbore” (Claim 12 of the ‘663 Patent)

No.	Nabors’ Proposed Construction	H&P’s Proposed Construction
11	The Preamble is not limiting	Preamble is limiting

“Generally, a preamble is not limiting.” *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1292 (Fed. Cir. 2015). A preamble is not limiting, for example, if the patentee “defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). H&P’s Response (ECF No. 92 at pp. 27-30 of 35) identifies exceptions to the general rule that a preamble is not limiting. A preamble is limiting if it recites “additional structure or steps underscored as important by the specification,” is “essential to understand limitations or terms in the claim body,” or provides necessary structure absent from the claim body. *Id.* at 808–09.

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<sup>33</sup> Exhibit 16, US Patent Application Serial No. 2013/0161096 to Benson et. al., entitled “System and Method for Determining Incremental Progression Between Survey Points While Drilling.”

The claim body defines a structurally complete invention. The preamble is not essential to understand any claim terms. Notably, the first and third limitations ([A] and [C]) of the body of claim 12 of the ‘663 Patent reintroduces “operating a drilling apparatus” and “adjusting the drilling apparatus to move the toolface toward the recommended toolface orientation” as the method of steps of “directing a drilling operation.” The preamble cannot be said to provide essential structure or necessary meaning to the claimed invention because the same element - operating and adjusting a drilling apparatus - is independently recited in the body of the claim. If the preamble was erased, the method steps of [A] “operating a drilling apparatus,” [B] “receiving and displaying electronic data ...”, and [C] “adjusting the drilling apparatus to move the toolface toward the recommended toolface orientation” could be easily understood. The “method of directing a drilling operation” language of the preamble is not necessary to understand the invention. Where, as here, the body of the claim describes a structurally complete invention, a preamble is not limiting when it merely gives a name to an invention, extols its features or benefits, or describes a use for the invention. *Catalina*, 289 F.3d at 809.

H&P has not shown that the preamble of claim 12 of Nabors’ ‘663 Patent informs the meaning of, or provides necessary structure to, the claim body. Nor does the preamble cite “additional structure or steps underscored as important by the specification.” *Catalina*, 289 F.3d at 808

**2. “recommended toolface orientation”  
(Claims 12, 14, 15, 17 & 20 of Nabors’ ‘663 Patent**

<b>No.</b>	<b>Nabors’ Proposed Construction</b>	<b>H&amp;P’s Proposed Construction</b>
<b>12</b>	Plain and Ordinary Meaning, e.g., the recommended or desired toolface orientation, a.k.a. toolface advisory. (See ‘081 Patent, claim 1)	Displayed recommended toolface orientation that depends on the recommended toolface orientation data

While the asserted claims require the steps of “receiving and displaying electronic data ... [that] includes ... recommended toolface orientation data,” there is nothing in the claims nor the written description that suggests that “the recommended toolface orientation” “**depends on**” the “recommended toolface orientation data” that is “receiv[ed] and display[ed].” Instead, the ‘663 Patent describes the “recommended toolface orientation” interchangeably with the “toolface advisory.” ECF No. 88-9, ‘663 Patent (Ex. 9) at (4:44-45)(“recommended toolface orientation, i.e., toolface advisory”).

## II. CONCLUSION

For the foregoing reasons, Nabors respectfully ask the Court to adopt its proposed claim constructions where appropriate.